Claim 6PATENT APPLICATION

In The United States Patent And Trademark Office

Applicant:	Goedeken et al.	**Examiner:**	Tran Lien, Thuy
Serial No.:	10/677,029	**Group Art Unit:**	1794
Filed:	October 1, 2003		
For:	DOUGH COMPOSITIONS AND RELATED METHODS	**Docket No.:**	P6187US (PIL0164/US)

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Commissioner for Patents
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DANIEL C. SCHULTE

APPEAL BRIEF

Dear Madam/Sir:

This Appeal Brief is being submitted in support of an Appeal from the Final Rejection mailed January 26, 2010, in connection with the above-identified patent application. The fee of $540.00 for filing this Appeal Brief is being paid by credit card via EFS.

A Notice of Appeal was received by the U.S. Patent and Trademark Office on April 13, 2010. The two-month period for reply ended on June 13, 2010. Appellants respectfully petition the Commissioner for Patents to extend the time for response for one month, from June 13, 2010, to July 13, 2010. The one-month extension of time fee ($130.00) is being charged to a credit card via EFS. It is respectfully submitted that this Response is timely filed within the extended deadline of July 13, 2010. If any additional extension period is required in order for this paper to be timely filed, then Appellants hereby request an extension for such additional time period and authorize the appropriate fees therefore to be charged to the Kagan Binder Deposit Account No. 50-1775 and notify us of the same.

It is believed that no other fee(s) are required in filing this paper. However, if any other fee(s) are required, then Appellants hereby authorize such fee(s) therefore to be charged to the Kagan Binder Deposit Account No. 50-1775 and notify us of the same.

Table of Contents

I. Real Party in Interest

General Mills Marketing, Inc. is the real party in interest.

II. Related Appeals and Interferences

There are no other appeals and/or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

III. Status of Claims

Rejected claims: 1-3, 6, 10, 11, 21-25 and 28-32.

Allowed claims: none.

Withdrawn claims: none.

Objected to claims: none.

Canceled claims: 4-5, 7-9, 12-20 and 26-27.

Appealed claims: 1-3, 6, 10, 11, 21-25 and 28-32.

Claims 1-3, 6, 10, 11, 21-25 and 28-32 are pending in the application.

Claims 1-2, 10-11 and 28-32 stand rejected under 35 U.S.C. §102(b) as being anticipated by Freyn et al. (U.S. Pat. No. 5,451,417).

Claims 3, 6 and 21-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Freyn et al. (U.S. Pat. No. 5,451,417).

Appellants respectfully appeal the rejection of claims 1-3, 6, 10, 11, 21-25 and 28-32.

IV. Status of Amendments

No amendments have been filed subsequent to the final rejection. All prior amendments have been entered.

V. Summary of Claimed Subject Matter

Note: the parenthetical citations below refer to the Appellant's specification.

The pending claims, in general, are directed to unproofed frozen dough compositions, that after thawing, can proof at retarder conditions, i.e., a temperature from 32°F to 46°F. The dough compositions utilize yeast and a chemical leavening agent, where the chemical leavening agent includes an acidic active agent and a basic active agent. The flour to water weight ratio in the dough compositions is from 1.67 to 1.82.

Claims 1, 21 and 28 are the independent claims.

Claim 1

1. An unproofed frozen dough composition comprising leavening agent comprising

yeast, and

chemical leavening agent comprising

from about 1 to about 5 Baker's percent acidic active agent selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, sodium acid pyrophosphate, and combinations thereof, and

from about 0.5 to about 3 Baker's percent basic active agent,

a flour to water weight ratio ranging from 1.67 to 1.82;

wherein the yeast, the chemical leavening agent, the flour, and the water are each present in an amount such that the dough composition, after thawing, can proof at retarder conditions, wherein retarder conditions comprise a temperature in the range from 32°F to 46°F.

The unproofed frozen dough composition includes yeast and chemical leavening agent that includes acidic active agent and basic active agent (page 6, lines 3-6). The acidic active agent, present at about 1 to about 5 Baker's percent (page 12, lines 1-2) may be monocalcium phosphate monohydrate, glucono-delta-lactone, or sodium acid pyrophosphate (page 10, lines 14-17). The basic active agent is present at about 0.5 to about 3 Baker's percent (page 12, line 31 to page 13, line 1). A flour to water weight ratio ranging from 1.67 to 1.82 is shown in the working examples (page 18, line 6 through page 22, line 10). In the Examples, the flour to water weight ratio ranges from 1.67 (Example 2) to 1.82 (Example 4). Between these values, three

intermediate values of 1.73 (Example 1), 1.75 (Example 3), and 1.81 (Example 5) are provided. The dough composition, after thawing, can proof at retarder conditions (page 6, lines 5-6). Retarder conditions are in the range from 32°F to 46°F (page 7, lines 3-5).

Claims 2-3, 6 and 10-11 depend from claim 1.

Claim 21

21. An unproofed frozen dough composition comprising leavening agent comprising

yeast, wherein the yeast is present in an amount of from 1 to 4 parts by weight yeast on a fresh crumbled yeast basis per 100 parts by weight of flour, and

chemical leavening agent comprising

acidic active agent, wherein the acidic active agent has relatively high solubility in the dough composition at retarder conditions, and

from about 0.5 to about 3 Baker's percent basic active agent,

a flour to water weight ratio ranging from 1.67 to 1.82;

wherein the yeast, the chemical leavening agent, the flour, and the water are each present in an amount such that the dough composition, after thawing, can proof at retarder conditions, wherein retarder conditions comprise a temperature in the range from 32°F to 46°F.

The unproofed frozen dough composition includes yeast and chemical leavening agent that includes acidic active agent and basic active agent (page 6, lines 3-6). The yeast is 1 to 4 parts yeast (page 9, line 13) on a fresh crumbled yeast basis (see, page 8, lines 10-27). The acidic active agent has relatively high solubility at retarder conditions (page 11, lines 27-28). The basic active agent is present at about 0.5 to about 3 Baker's percent (page 12, line 31 to page 13, line 1). A flour to water weight ratio ranging from 1.67 to 1.82 is shown in the working examples (page 18, line 6 through page 22, line 10). In the Examples, the flour to water weight ratio ranges from 1.67 (Example 2) to 1.82 (Example 4). Between these values, three intermediate values of 1.73 (Example 1), 1.75 (Example 3), and 1.81 (Example 5) are provided. The dough composition, after thawing, can proof at retarder conditions (page 6, lines 5-6). Retarder conditions are in the range from 32°F to 46°F (page 7, lines 3-5).

Claims 22-25 depend from claim 21.

Claim 28

28. An unproofed frozen dough composition comprising leavening agent comprising
yeast, and
chemical leavening agent comprising
acidic active agent selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, sodium acid pyrophosphate, and combinations thereof,
basic active agent,
flour, and
water,

wherein
the weight ratio of flour to water is in the range from 1.67 to 1.82;
the dough composition, after thawing, can proof at retarder conditions; and
retarder conditions comprise a temperature in the range from 32°F to 46°F.

The unproofed frozen dough composition includes yeast and chemical leavening agent that includes acidic active agent and basic active agent (page 6, lines 3-6). The acidic active agent may be monocalcium phosphate monohydrate, glucono-delta-lactone, or sodium acid pyrophosphate (page 10, lines 14-17). Flour and water in a weight ratio ranging from 1.67 to 1.82 is shown in the working examples (page 18, line 6 through page 22, line 10). In the Examples, the flour to water weight ratio ranges from 1.67 (Example 2) to 1.82 (Example 4). Between these values, three intermediate values of 1.73 (Example 1), 1.75 (Example 3), and 1.81 (Example 5) are provided. The dough composition, after thawing, can proof at retarder conditions (page 6, lines 5-6). Retarder conditions are in the range from 32°F to 46°F (page 7, lines 3-5).

Claims 29-32 depend from claim 28.

VI. Grounds of Rejection to be Reviewed on Appeal

Whether the subject matter of pending claims 1-2, 10-11, and 28-32 is anticipated under 35 U.S.C. §102(b) by Freyn et al. (U.S. Pat. No. 5,451,417).

Whether the subject matter of pending claims 3, 6, and 21-25 is unpatentable under 35 U.S.C. §103(a) over Freyn et al. (U.S. Pat. No. 5,451,417).

VII. Argument

The final Office Action (dated January 26, 2010) is erroneous that dough compositions recited in the pending claims are either anticipated by or obvious over U.S. Patent No. 5,451,417 to Freyn et al. (herein after referred to as "the Freyn et al. reference" or "Freyn et al.").

Claims 1-2, 10-11 and 28-32

The rejection concludes that pending claims 1-2, 10-11 and 28-32 are anticipated by the cited Freyn et al. reference. According to the rejection, Freyn et al. is said to disclose a dough composition having a flour to water weight ratio of 1.70, which is within the claimed range of 1.67 to 1.82.

Appellants disagree that the cited reference identically discloses a dough composition having a flour to water weight ratio of 1.70. The calculation used by the Examiner to arrive at this value is incorrect. Using the correct calculation, Freyn et al. does not show a dough composition having a flour to water weight ratio within the range of 1.67 to 1.82.

Each of the various ingredients of any baking recipe serves an understood and expected purpose, and each has a definite effect within the recipe in conjunction with other ingredients. Flour is the base in a dough composition. Water and other liquids are included with the flour to hydrate the flour proteins and form gluten. The gluten defines a large cohesive system that defines the dough composition's rheological properties. In dough compositions, the water content is low enough that the water-protein complex, gluten, constitutes the continuous phase in which other components (e.g., gas pockets, etc.) are embedded.

In a similar respect, general amounts and types of ingredients of a recipe are selected to achieve a balance of properties in a raw dough and a baked dough product, the balance defining general attributes of a dough such as proofing properties, taste and other organoleptic properties, density, storage properties, etc. One may not normally deviate substantially from general features of a recipe and still achieve a desired balance of raw dough and cooked dough properties. For example, using a second source of flour requires reducing the amount used of a first flour ingredient. Similarly, water that is intrinsically present in a non-water or ice ingredient (e.g., as water is intrinsically present in milk or eggs) offsets the amount of "added" water that is considered an ingredient of a recipe.

Ultimately, when considering how much water a dough composition contains, the skilled artisan must account for all available water in the ingredients of a recipe, even water that is intrinsically found as a component of a non-water ingredient. This fact is unquestioned in the baking and dough art, as can be shown throughout baking literature. See for example page 305 of "On Food and Cooking, The Science and Lore of the Kitchen," by Harold McGee, under the heading "Milk and Eggs", states

> *both milk and eggs contribute three major ingredients: water, protein, and fat.* *The first must be taken into account when determining how much liquid to add to the flour.* (Emphasis ours.)

The person of ordinary skill in the dough and baking arts knows that when determining the amount of water present in a recipe, all sources of water available to hydrate the flour must be included in the calculation. Examples of non-water water sources include milk, eggs (including liquid eggs), fruit juices, and applesauce.

The Examiner asserts that Example 6 of Freyn et al. has a flour:water ratio of 1.70, which falls within the claimed range of 1.67 to 1.82. Appellants disagree. The Examiner has calculated this ratio based only on water added in the form of a water ingredient, which is technically erroneous. In calculating the amount of water in a recipe, all water available for hydration of the flour is the correct measure. It is well known in the baking arts that a "flour to water weight ratio" is the ratio of the flour weight to the weight of all the available water available for hydration of the flour. One skilled in the art, when calculating the flour:water ratio of a recipe, includes all sources of available water, including water contained implicitly in any water-containing ingredients such as milk, eggs (liquid eggs), fruit juices, applesauce, etc.

Accordingly, the water portion of liquid eggs of Freyn et al., in Examples 4B, 5A, 5B, 6 and 7, is included when calculating the flour to water ratio for these examples. Using a water content of 76% wt. for liquid eggs, as is conventionally known, Example 6 of Freyn et al. has a flour to water weight ratio of 1.60, not 1.70 as calculated by the Examiner. This value of 1.60 is outside of the claimed range of 1.67 to 1.82. To those skilled in the baking art, Freyn et al. does not have a flour:water ratio in the range of 1.67 to 1.82.

The Examiner also contends that pending claims 1-2, 10-11 and 28-32 are anticipated by Freyn et al. because the limitation in the pending claims, "such that the dough composition, after

thawing, can proof at retarder conditions" is supposedly not a positive limitation but merely a recitation of what the dough can do. Appellants again disagree.

It is well established that a claim limitation recited in functional terms is a positive limitation and not merely an "intent to use" feature to be disregarded. Functional terms or phrases define an invention in terms of what the technology does rather than by what it is; there is nothing wrong with use of such terms or phrases in claims. In re Swinehart and Sfiligoj, 169 USPQ 226 (CCPA 1971). According to the MPEP:

> *a functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step.* (MPEP 2173.05(g)).

The feature "such that the dough composition, after thawing, can proof at retarder conditions" defines a property of the dough and must be evaluated just like any other claim feature. The dough composition is one that, after thawing, is capable of being proofed at retarder conditions. Certainly not all doughs exhibit this functional capability, and those that do not are excluded from this language. The Freyn reference does not disclose a dough composition that is capable of this functional performance. That reference relates to doughs having different proofing behavior, i.e., doughs that are not required to undergo proofing between freezer and oven (a freezer-to-oven dough).

As shown by Appellants during prosecution, in a Declaration Under 37 C.R.F. 1.132 by David J. Domingues submitted October 7, 2008 (and attached hereto in the Evidence Appendix), the dough examples of Freyn et al. do not proof at retarder conditions (see Paragraphs 5 and 8 of the Declaration). Domingues reproduced the examples of Freyn et al. and found that they do not proof (i.e., have an increase in volume by 50% or more) at a temperature of 32°F to 46°F.

The cited Freyn reference does not anticipate claims 1-2, 10-11 and 28-32, at least because that reference does not identically show a dough with a flour to water weight ratio ranging from 1.67 to 1.82, that also is capable of proofing at retarder conditions.

Claims 3, 6, and 21-25

Claims 3, 6, and 21-25 have not been shown to be *prima facie* obvious in view of the Freyn reference. These claims require a flour to water ratio of from 1.67 to 1.82, and a dough capable of being proofed at retarder conditions. The rejection has not established that the Freyn reference either allows or motivates one of skill to produce a dough that would be capable of being proofing at retarder conditions, and that has a flour to water ratio of from 1.67 to 1.82.

As discussed above, Freyn et al. does not identically teach an unproofed frozen dough composition that has a flour to water weight ratio ranging from 1.67 to 1.82 and retarder-to-oven proofing properties. Contrary to the rejection, the Freyn et al. reference also does not provide any reason or motivation to prepare an unproofed frozen dough compositions having retarder-to-oven leavening properties and a flour to water weight ratio ranging from 1.67 to 1.82.

The Freyn et al. doughs are not capable of retarder-to-oven proofing, but are exclusively and very intentionally designed for freezer-to-oven baking performance. Doughs having these different proofing properties (retarder proofing, versus baking from frozen) are not interchangeable and success in formulating one is not indicative or predictive of success in achieving the other. An obviousness analysis of the pending claims to retarder-to-oven technology in view of freezer-to-oven must account for the fundamental purpose and proofing properties of the doughs of the Freyn et al. reference, and the distinct requirement of the pending claims of retarder-to-oven proofing. The comparison of Freyn et al. with the rejected claims in an obviousness analysis must occur in light of this essential difference between the claims and the cited art. In that light, one of skill would have had no motivation to modify the doughs of Freyn et al. in a manner to produce a retarder-to-oven dough as claimed.

One of skill in the baking arts would not have looked to the Freyn et al. reference, directed to specific freezer-to-oven doughs, for information relevant to a dough that would be capable of proofing at retarder conditions. Freyn et al. discusses, throughout the Background from column 1, line 9 to column 2, lines 2, the disadvantages of doughs that must be proofed prior to baking and the advantage of avoiding proofing; Freyn et al. provides a solution by eliminating the need thawing and proofing steps. This does not motivate in the direction of proofing at retarder conditions.

One of skill would not view freezer-to-oven technology as a starting point for retarder-to-oven functionality. Freezer-to-oven dough technology is not interchangeable with or suggestive

of retarder-to-oven technologies. These two different classes of doughs are specifically designed to produce their specific performance attributes. Freezer-to-oven doughs are designed to be quickly baked without thawing or proofing, at a moment's notice. Freezer-to-oven doughs are designed to go directly from a frozen state to the oven and to provide a baked product that is substantially similar to a proofed baked product with regard to its flavor, volume, texture, structure, and aroma. The baked product from a proofed dough is the standard that a freezer-to-oven dough strives to attain. There is no need for this dough to proof before baking, especially at retarder conditions.

The difference in properties are illustrated in the Declaration Under 37 C.R.F. 1.132 by David J. Domingues submitted October 7, 2008. The freezer-to-oven doughs of Freyn et al. do not proof at retarder conditions (see Paragraphs 5 and 8 of the Declaration). The proofing properties of the exemplary doughs of Freyn et al. are substantially different than the proofing properties of the doughs of the instant application (see Paragraph 6 of the Declaration), and are not overlapping, equivalent, or mutually suggestive of each other. A dough designed to be directly baked from frozen would not suggest a dough designed for the completely different method of use, of being proofing at retarder conditions. The freezer-to-oven dough specifically avoids thawing and proofing. As declared by David J. Domingues on October 7, 2008, one of skill in the dough art would not have found it obvious to prepare a dough composition that can proof at retarder conditions, as claimed in the instant application, based on the disclosures in Freyn et al. (see Paragraph 11 of the Declaration).

Moreover, even if Freyn et al. were construed to establish *prima facie* obviousness of claims 3, 6, and 21-25, the specific range of flour:water ratio of the present application unexpectedly produces significantly improved performance compared to the doughs of Freyn et al. In particular, even if Freyn et al. could be used as a starting point, one of skill would not have had any expectation that a dough composition having a flour to water ratio in the range from 1.67 to 1.82 might be capable of being proofed at retarder conditions. This proofing behavior is substantially different and advantageous relative to the Freyn reference, and not suggested by the reference. The difference is a difference in kind, and not just degree. The skilled artisan would have had no ability to predict that the claimed flour to water ratio would result in the claimed proofing performance, based on the content of the Freyn reference. As such, even if the cited reference did establish *prima facie* obviousness of the pending claims (which is refuted), the

unexpected advantage of retarder-to-oven proofing capabilities would be sufficient to rebut obviousness.

With more specific regard to claim 3, this claim is patentable over the cited reference at least due to its dependency from claim 1 and the remarks hereinabove, and further due to the more specific recitation of a proofed (at retarder conditions) raw specific volume in a range from 1.5 to 3 cubic centimeters per gram.

The rejections of record summarily conclude that it would have been obvious to one skilled in the art to determine the appropriate raw specific volume depending on the type of product and the specific texture and taste wanted, and that this is within the skill of one in the art through routine experimentation.

This conclusion is untenable, at least because this asserted ground of rejection is not supported by any reasoned analysis, but is a mere perfunctory conclusion lacking substantive support. The rejection is premised on the implausible notion that one of skill could achieve any desired set of dough properties at will -- that the skilled artisan merely combines known ingredients with mechanical ease and predictability to produce a dough having any pre-desired set of working properties. This of course inaccurately represents the process of research within the baking arts.

To achieve one single dough property in isolation might be simple, if all other properties of the dough can be disregarded. A desired proofed specific volume might be easily achieved if any proofing temperature and unconstrained flavor properties would suffice. On the other hand, achieving a desired proofed specific volume in combination with a different desired property that is difficult to achieve, such as proofing from frozen at retarder conditions, may not be achievable at all, much less by mere dictate of these desirable capabilities. Dough ingredients can be selected to achieve one desired property, but each ingredient selected will affect more than one performance feature of a dough.

Ultimately, contrary to the rejection, the ability to achieve the claimed functionality of proofing at retarder conditions generally, and more particularly the raw specific volume recited at claim 3, would not have been merely a matter of "routine experimentation." An attempt to control specific volume upon proofing is not a matter of simply adding more or less of the ingredient responsible for proofing. Changing one ingredient level can have any number of unintended consequences, such as preventing or inhibiting proofing at low (e.g., retarder)

temperature, preventing acceptable processing, producing unacceptable flavoring, reduced storage stability, etc. As any researcher in the dough and baking arts would confirm, the identity and amount of every ingredient affects multiple properties of a raw dough and a resultant baked dough product. Researchers contend with the inescapable reality that changing a single ingredient causes not just an intended and desired effect, but often also unwanted yet unavoidable and unintended effects. One cannot single out one property, and control one result exclusively, without producing other unintended effects. Creating a dough having a commercially desirable combination of physical, organoleptic, and processing (e.g., proofing) properties, is not formulaic and predictable as implied by the rejection, and is not necessarily a matter of routine experimentation or optimization. Instead, such commercially useful and valuable advances generally result from arduous research and experimentation combined with creativity and skill of the type intended to be encourage, supported, and protected by our system of patents.

At least for the various reasons provided above, Appellants request that the rejection of claims 1-2, 10-11 and 28-32 under 35 U.S.C. §102(b) and the rejection of claims 3, 6, and 21-25 under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance, and respectfully requested that the application be passed to issue. The Examiner is invited to telephone the Applicants' undersigned representative in the event that such communication is deemed to expedite prosecution of this application.

Respectfully Submitted,

Dated: June 16, 2010

By: [signature]

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#59918

VIII. Appendix – Claims on Appeal

1. An unproofed frozen dough composition comprising leavening agent comprising

yeast, and

chemical leavening agent comprising

from about 1 to about 5 Baker's percent acidic active agent selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, sodium acid pyrophosphate, and combinations thereof, and

from about 0.5 to about 3 Baker's percent basic active agent,

a flour to water weight ratio ranging from 1.67 to 1.82;

wherein the yeast, the chemical leavening agent, the flour, and the water are each present in an amount such that the dough composition, after thawing, can proof at retarder conditions, wherein retarder conditions comprise a temperature in the range from 32°F to 46°F.

2. The dough composition of claim 1 wherein the frozen dough composition can be thawed and proofed in a retarder at a temperature in the range from 32°F to 46°F.

3. The dough composition of claim 1 wherein the yeast and chemical leavening agent can proof the dough composition at retarder conditions to a raw specific volume in a range from 1.5 to 3 cubic centimeters per gram.

6. The dough composition of claim 1 wherein the yeast is present in an amount in the range from 1 to 4 parts by weight of yeast on a fresh crumbled yeast basis per 100 parts by weight of flour.

10. The dough composition of claim 1 wherein the dough composition comprises a normally-yeast-leavened dough composition.

11. The dough composition of claim 10 wherein the normally-yeast-leavened dough composition is selected from the group consisting of a yeast-leavened cinnamon roll, a yeast-leavened roll, a yeast-leavened bread, and a yeast-leavened donut.

21. An unproofed frozen dough composition comprising leavening agent comprising

yeast, wherein the yeast is present in an amount of from 1 to 4 parts by weight yeast on a fresh crumbled yeast basis per 100 parts by weight of flour, and

chemical leavening agent comprising

acidic active agent, wherein the acidic active agent has relatively high solubility in the dough composition at retarder conditions, and

from about 0.5 to about 3 Baker's percent basic active agent,

a flour to water weight ratio ranging from 1.67 to 1.82;

wherein the yeast, the chemical leavening agent, the flour, and the water are each present in an amount such that the dough composition, after thawing, can proof at retarder conditions, wherein retarder conditions comprise a temperature in the range from 32°F to 46°F.

22. The dough composition of claim 21 wherein the acidic active agent is selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, anhydrous monocalcium phosphate, potassium acid tartrate, fumaric acid, ascorbic acid, citric acid, lactic acid, sorbic acid, propionic acid, and combinations thereof.

23. The dough composition of claim 21 wherein the basic active agent is encapsulated.

24. The dough composition of claim 6 wherein the acidic active agent is present in an amount in the range from 1.5 to 5 parts by weight per 100 parts by weight of flour.

25. The dough composition of claim 24 wherein the basic active agent is present in an amount in the range from about 0.5 to about 2.5 Baker's percent.

28. An unproofed frozen dough composition comprising leavening agent comprising

yeast, and

chemical leavening agent comprising

acidic active agent selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, sodium acid pyrophosphate, and combinations thereof,

basic active agent,

flour, and

water,

wherein

the weight ratio of flour to water is in the range from 1.67 to 1.82;

the dough composition, after thawing, can proof at retarder conditions; and

retarder conditions comprise a temperature in the range from 32°F to 46°F.

29. The dough composition of claim 28 comprising from about 1 to about 5 Baker's percent acidic active agent selected from the group consisting of monocalcium phosphate monohydrate, glucono-delta-lactone, sodium acid pyrophosphate, and combinations thereof.

30. The dough composition of claim 29 comprising basic active agent in an amount sufficient to neutralize the acidic active agent.

31. The dough composition of claim 28 comprising from about 0.5 to about 3 Baker's percent basic active agent.

32. The dough composition of claim 29 comprising from about 0.5 to about 3 Baker's percent basic active agent.

IX. Evidence Appendix

Declaration Under 37 C.R.F. 1.132 by David Domingues submitted October 7, 2008 (8 pages)

Declaration Under 37 C.R.F. 1.132 by David Domingues submitted March 7, 2008 (6 pages)

X. Related Proceedings Appendix

None.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Goedeken et al.	**Examiner:**	Tran Lien, Thuy
Serial No.:	10/677,029	**Group Art Unit:**	1794
Filed:	October 1, 2003		
For:	DOUGH COMPOSITIONS AND RELATED METHODS	**Docket No.**	P6187US (PIL0164/US)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir or Madam:

I, David J. Domingues, declare and say as follows:

1. I am a citizen of the United States of America, and reside at 11520 - 39th Avenue North, Plymouth, Minnesota 55441.

2. I am presently a Fellow at General Mills, Inc. in the Innovation, Technology, and Quality division. I am named a joint inventor of the above-identified patent application.

3. I have read and am thoroughly familiar with the final Office Action mailed December 7, 2007, the documents cited therein, including U.S. Patent No. 5,451,417 (Freyn et al.), and the Response and Amendment filed concurrently herewith. I am also familiar with the dough formulations described in the above-identified patent application. I therefore make this Declaration in support of the patentability of claims of the application.

4. I prepared the following dough formulations:

Inventive Dough Formulation – Example 2 formulation in Table 2-A on page 19 of Applicants' specification.

Ingredient	Bakers %
flour	100
sucrose	5.42
e-soda (80% sodium bicarbonate, 20% hydrogenated vegetable shortening)	1.88*
glucono delta lactone (GDL)	2.57
water	59.81
cake yeast	3.62
shortening	7.5**

* Table 2-A in Applicants' specification shows that 2.15 Bakers % of BAKESURE 195 was used. BAKESURE 195 has an activity of 70% soda and 30% shortening. 2.15 Bakers % of BAKESURE 195 corresponds to 0.83 weight percent of soda based on the total weight of the dough composition. BAKESURE 195 was not available for the experiment in support of this Affidavit so a substitute e-soda was used in the amount of 1.88% Bakers percent. The substitute e-soda has an activity of 80% soda and 20% shortening. 1.88% Bakers percent of the substitute e-soda corresponds to 0.83 weight percent of soda based on the total weight of the dough composition (comparable amount to that evaluated in the applicant's specification).

** Table 2-A in Applicants' specification shows that shortening was used in the amount of 7.23 Bakers %. Since, as discussed above, a higher activity e-soda was used, a higher amount of shortening was used to balance the formula (7.5 Bakers percent). This slightly higher amount of shortening does not infer that more dough expansion would take place and that higher raw specific volume values would be achieved.

The ingredients of the Inventive Dough formulation were blended together in a mixing bowl and mixed on slow speed for 60 seconds followed by mixing at fast speed for 6 minutes.

Freyn et al. Formulation – Example 1, Sample B, at column 6 of the Freyn et al. reference.

Ingredient	Bakers%
flour	100
sucrose	5.36
non fat dry milk	4.02
whey	2.01
salt	1.41
baking soda	3.35
sodium aluminum phosphate	3.72
dough conditioner	0.67
(cake) yeast	6.7
water	70.31
shortening	13.39

Freyn et al. Formulation – Example 2, at column 7 of the Freyn et al. reference.

Ingredient	Bakers%
flour	100
sucrose	8.49
non fat dry milk	4.25
whey	2.12
salt	1.49
baking soda	3.54
sodium aluminum phosphate	3.93
dough conditioner	0.71
(dry) yeast	7.08
water	67.92
shortening	16.98

Freyn et al. Formulation – Example 5, Sample B, at column 8 of the Freyn et al. reference.

Ingredient	Bakers%
flour	100
sucrose	8.43
non fat dry milk	7.02
salt	1.48
baking soda	3.51
sodium aluminum phosphate	3.91
dough conditioner	0.7
(cake) yeast	16.86
water	63.23
shortening	21.07
Liquid egg	5.62

For Example 1, Sample B of the Freyn et al. reference, the dry ingredients of the Freyn et al. formulation were combined together in a mixing bowl. Then, water at 10-16°C (50-60.8°F) was added to the dry ingredients in the mixing bowl (spiral mixer). The ingredients were mixed on low speed for one (1) minute followed by high speed for 4 minutes.

For Example 2 and Example 5, Sample B, of the Freyn et al. reference, the dry ingredients of the Freyn et al. formulation were combined together in a mixing bowl. Then, water at 10-16°C (50-60.8°F) was combined with the yeast (and then liquid egg in Example 5, Sample B). The combined water, yeast (and liquid egg in Example 5, Sample B) were added to the dry ingredients in the mixing bowl (spiral mixer). The ingredients were mixed on low speed for one (1) minute followed by high speed for 5 minutes. For Example 2 and Example 5, Sample B, the mix time given in the Freyn et al. reference is 10 minutes but we mixed for 5 minutes to ensure that the dough could be handled and formed into sample pieces. A longer mix time would have resulted in a dough rheology that is too sticky and difficult to remove from the mixing bowl.

For each of the Inventive and Freyn et al. dough compositions, the doughs were formed into 75 gram balls and placed onto a line baking sheet (4 trays of 16 balls each

were made). Then, the baking sheet was covered with a plastic bag, frozen in blast freezer, and stored at -10°F for 24 hours.

5. The proofing properties of the "Freyn et al." dough samples, after thawing from a frozen state, were compared with the proofing properties of the "Inventive" dough, after thawing from a frozen state. With respect to independent claims 1, 12, and 21, the results show that, in accordance with the invention of the above patent application, dough compositions can be formulated to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram (see the specification at, e.g., page 6, lines 16-24). The results further show that the dough samples prepared as described by Freyn et al. does not "proof" as described in the above patent application and claimed in amended claims 1, 12, and 21.

6. The initial raw specific volume (RSV) was determined via volumetric displacement. Then the covered trays were placed in atmospheres of 35°F, 40°F and 45°F, while RSV measurements and volume measurements were recorded as a function of time (duplicate measurements were recorded). The results of these tests, in percent increase in volume and cubic centimeters per gram, indicate substantially different proofing properties when comparing the Inventive dough to the Freyn et al. dough samples:

35°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough example 1 sample B (cc/g)	RSV of Freyn et al. Dough example 2 (cc/g)	RSV of Freyn et al. Dough example 5 sample B (cc/g)
0	1.108	0.899	0.864	0.916
2	1.213	0.884	0.864	0.923
4	1.35	0.891	0.878	0.921
6	1.555	0.913	0.895	0.972
8	1.705	0.952	0.876	0.989
24	1.852	1.171	1.044	1.19

35°F Data

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough example 1 sample B	Percent volume change of Freyn et al. Dough example 2	Percent volume change of Freyn et al. Dough example 5 sample B
0	0	0	0	0
2	9.42	-1.58	0.04	0.77
4	21.8	-0.87	1.65	0.53
6	40.28	1.6	3.59	6.09
8	53.79	5.98	1.4	8
24	67.06	30.26	20.82	29.87

40°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough example 1 sample B (cc/g)	RSV of Freyn et al. Dough example 2 (cc/g)	RSV of Freyn et al. Dough example 5 sample B (cc/g)
0	1.108	0.899	0.864	0.916
2	1.242	0.877	0.864	0.915
4	1.474	0.912	0.887	0.949
6	1.609	0.945	0.894	0.99
8	1.777	1.004	0.935	1.124
24	1.938	1.248	1.146	1.228

40°F Data

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough example 1 sample B	Percent volume change of Freyn et al. Dough example 2	Percent volume change of Freyn et al. Dough example 5 sample B
0	0	0	0	0
2	12.05	-2.39	0	-0.06
4	33.01	1.47	2.73	3.61
6	45.14	5.13	3.49	8.12
8	60.37	11.78	8.25	22.69
24	74.87	38.93	32.67	34.13

45°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough example 1 sample B (cc/g)	RSV of Freyn et al. Dough example 2 (cc/g)	RSV of Freyn et al. Dough example 5 sample B (cc/g)
0	1.108	0.899	0.864	0.916
2	1.246	0.885	0.837	0.943
4	1.469	0.931	0.874	0.972
6	1.672	0.984	0.905	1.103
8	1.847	0.994	0.932	1.221
24	2.004	1.258	1.148	1.309

45°F Data

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough example 1 sample B	Percent volume change of Freyn et al. Dough example 2	Percent volume change of Freyn et al. Dough example 5 sample B
0	0	0	0	0
2	12.46	-1.50	-3.15	3
4	32.51	3.64	1.15	6.11
6	50.85	9.55	4.78	20.45
8	66.61	10.59	7.82	33.33
24	80.79	39.96	32.81	42.92

7. The Inventive dough composition "proofed" at 35°F, 40°F and 45°F, i.e., dough increased in volume by 50% or more and had a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

8. The "Freyn et al." dough compositions did not "proof" at 35°F, 40°F and 45°F. The Freyn et al. dough compositions increased in volume by less than 50% at 35°F, 40°F and 45°F, and the raw specific volume of the Freyn et al. dough was less than 1.5 cc/g at 35°F, 40°F and 45°F.

9. This comparison demonstrates that dough compositions can be formulated as described and claimed in the above patent application to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and

has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

10. The Freyn et al. patent does not describe how to make a dough composition that can proof at a temperature in the range from 32°F to 46°F as described and claimed in the above-identified patent application.

11. Based on the above, it is my opinion that one of skill in the dough making art would not have found it obvious to prepare a dough composition that can proof at a temperature in the range from 32°F to 46°F, as described and claimed in the above-identified patent application, based on the Freyn et al. reference.

12. I further believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Oct. 7, 2008
Date

By ______________________
David J. Domingues

#48000

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Goedeken et al.	**Examiner:**	Tran Lien, Thuy
Serial No.:	10/677,029	**Group Art Unit:**	1794
Filed:	October 1, 2003		
For:	DOUGH COMPOSITIONS AND RELATED METHODS	**Docket No.**	P6187US (PIL0164/US)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir or Madam:

I, David J. Domingues, declare and say as follows:

1. I am a citizen of the United States of America, and reside at 11520 - 39th Avenue North, Plymouth, Minnesota 55441.

2. I am presently Sr. Principal Scientist at General Mills, Inc. in Research and Development. I am named a joint inventor of the above-identified patent application.

3. I have read and am thoroughly familiar with the final Office Action mailed December 7, 2007, the documents cited therein, including U.S. Patent No. 5,451,417 (Freyn et al.), and the Response and Amendment filed concurrently herewith. I am also familiar with the dough formulations described in the above-identified patent application. I therefore make this Declaration in support of the patentability of claims of the application.

4. I prepared the following dough formulations:

Inventive Dough Formulation – Example 2 formulation in Table 2-A on page 19 of Applicants' specification.

Ingredient	Bakers %
flour	100
sucrose	5.42
e-soda (75% active soda, 25% fat)	1.41*
GDL	2.57
water	59.81
cake yeast	3.62
shortening	7.97**

* Table 2-A in Applicants' specification shows that 2.15 Bakers % of BAKESURE 195 was used. BAKESURE 195 has an activity of 70% soda and 30% fat. 2.15 Bakers % of BAKESURE 195 corresponds to 0.828 weight percent of soda based on the total weight of the dough composition. BAKESURE 195 was not available for the experiment in support of this Affidavit so a substitute e-soda was used in the amount of 1.41 Bakers percent. The substitute e-soda has an activity of 75% soda and 25% fat. 1.41 Bakers % of the substitute e-soda corresponds to 0.585 weight percent of soda based on the total weight of the dough composition. Using a lower amount (0.585 instead of 0.828) of soda in the experiment for this Affidavit is a more rigorous test for the Inventive Dough Formulation because using less soda infers that less dough expansion would take place resulting in lower raw specific volume values.

** Table 2-A in Applicants' specification shows that shortening was used in the amount of 7.23 Bakers %. Since, as discussed above, a lower amount of e-soda was used for the experiment in support of this Affidavit, a slightly higher amount (7.97 Bakers %) of shortening was used to make up for the lower amount of e-soda used. This slightly higher amount of shortening does not infer that more dough expansion would take place and that higher raw specific volume values would be achieved.

The ingredients of the Inventive Dough formulation were blended together in a mixing bowl and mixed on slow speed for 60 seconds followed by mixing at fast speed for 6 minutes.

**Freyn et al. Formulation –
Example 1, Sample C, at column 6
of the Freyn et al. reference.**

Ingredient	Bakers%	Actual Bakers %*
flour*	100	100
sucrose	8.49	7.91
NFDM	4.26	3.97
whey	2.13	1.98
salt	1.49	1.39
baking soda	3.53	3.29
SALP	3.93	3.66
dough conditioner	0.70	0.65
yeast	7.08	6.60
water	70.76	65.94
shortening	16.98	15.82

*An additional 100 grams of flour was added to the Freyn et al. formula as the dough was too sticky to remove effectively from the bowl and shape. The additional 100 grams of flour resulted in the amounts reported as "Actual Bakers %." This additional amount of flour improves the gas holding capacity of the Freyn et al. dough and, therefore, helps the proofing properties of the Freyn et al. dough.

The dry ingredients of the Freyn et al. formulation were combined together in a mixing bowl. Then, water at 10-16°C (50-60.8°F) was added to the dry ingredients in the mixing bowl (spiral mixer). The ingredients were mixed on low speed for one (1) minute followed by high speed for 4-10 minutes.

For each of the Inventive and Freyn et al. dough compositions, the doughs were formed into 75 gram balls and placed onto a line baking sheet (4 trays of 16 balls each were made). Then, the baking sheet was covered with a plastic bag, frozen in blast freezer, and stored at -10°F for 24 hours.

5. The proofing properties of the "Freyn et al." dough, after thawing from a frozen state, were compared with the proofing properties of the "Inventive" dough, after thawing from a frozen state. With respect to independent claims 1, 12, and 21, as amended, the results show that, in accordance with the invention of the above patent application, dough compositions can be formulated to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and

has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram (see the specification at, e.g., page 6, lines 16-24). The results further show that the dough prepared as described by Freyn et al. does not "proof" as described in the above patent application and claimed in amended claims 1, 12, and 21.

6. The initial raw specific volume (RSV) was determined via volumetric displacement. Then the covered trays were placed in atmospheres of 40°F and 45°F, while RSV measurements and volume measurements were recorded as a function of time (duplicate measurements were recorded). The results of these tests, in percent increase in volume and cubic centimeters per gram, indicate substantially different proofing properties when comparing the Inventive dough to the Freyn et al. dough:

40°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough (cc/g)
0	0.964	0.866
2	1.017	0.915
4	1.05	0.9
6	1.195	0.919
8	1.253	0.95
16	1.561	1.116
24	1.734	1.164

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough
0	0	0
2	5.5	5.66
4	8.92	3.93
6	23.96	6.12
8	29.98	9.7
16	61.93	28.87
24	79.88	34.41

45°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough (cc/g)
0	0.964	0.866
2	0.986	0.901
4	1.018	0.901
6	1.106	0.898
8	1.221	0.933
16	1.549	1.099
24	1.82	1.178

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough
0	0	0
2	2.28	4.04
4	5.6	4.04
6	14.73	3.7
8	26.66	7.74
16	60.68	26.91
24	88.8	36.03

7. The Inventive dough composition "proofed" at 40°F and 45°F, i.e., dough increased in volume by 50% or more and had a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

8. The "Freyn et al." dough composition did not "proof" at 40°F and 45°F. The Freyn et al. dough composition increased in volume by less than 50% at 40°F and 45°F, and the raw specific volume of the Freyn et al. dough was less than 1.5 cc/g at 40°F and 45°F.

9. This comparison demonstrates that dough compositions can be formulated as described and claimed in the above patent application to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

10. The Freyn et al. patent does not describe how to make a dough composition that can proof at a temperature in the range from 32°F to 46°F as described and claimed in the above-identified patent application.

11. Based on the above, it is my opinion that one of skill in the dough making art would not have found it obvious to prepare a dough composition that can proof at a temperature in the range from 32°F to 46°F, as described and claimed in the above-identified patent application, based on the Freyn et al. reference.

12. I further believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

March 7, 2008
Date

By [signature]
David J. Domingues

#42623